U.S. DEPT. OF AGRICULTURE.

Control and eradication of the pink bollworm, United States and Mexico(76th Cong. 3d sess. H.R.Doc. no. 564) 1940.

76TH CONGRESS } HOUSE OF REPRESENTATIVES { DOCUMENT
3d Session } { No. 564

CONTROL AND ERADICATION OF THE PINK BOLLWORM, UNITED STATES AND MEXICO

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES

TRANSMITTING

LETTER FROM THE SECRETARY OF THE DEPARTMENT OF AGRICULTURE SUBMITTING A REPORT IN RESPONSE TO THE ACT—PUBLIC, NO. 351—PASSED AT THE FIRST SESSION OF THE SEVENTY-SIXTH CONGRESS, INSTRUCTING THE SECRETARY OF AGRICULTURE, WITH THE ASSISTANCE OF THE SECRETARY OF STATE, TO CARRY ON DISCUSSIONS WITH THE REPUBLIC OF MEXICO WITH RESPECT TO THE CONTROL OR ERADICATION OF THE PINK BOLLWORM

JANUARY 15, 1940.—Referred to the Committee on Agriculture and ordered to be printed

To the Congress of the United States:

There is transmitted herewith a letter from the Secretary of Agriculture submitting a report in response to the Act—Public, No. 351—passed at the first session of the Seventy-sixth Congress, instructing the Secretary of Agriculture, with the assistance of the Secretary of State, to carry on discussions with responsible officials of the Republic of Mexico and if he deemed it necessary with the States of the United States concerned with respect to the control or eradication of the insect pest of cotton known as the pink bollworm.

FRANKLIN D. ROOSEVELT.

THE WHITE HOUSE, *January 15, 1940.*

JANUARY 11, 1940.

The PRESIDENT,
The White House.

MY DEAR MR. PRESIDENT: At the first session of the Seventy-sixth Congress, Public, No. 351, authorized the Secretary of Agriculture, with the assistance of the Secretary of State, to carry on discussions with the heads of responsible agencies and responsible officials of the Government of Mexico and with such various States of the United States as he deemed necessary for the purpose of preparing plans looking toward the eradication and control of the pink bollworm of cotton within the United States and Mexico. This act also provided that a report should be made to the President on or before January 10, 1940, with respect to plans developed in accordance with this authorization.

In order to give effect to the wish of Congress a committee was appointed to represent the Department of Agriculture of the United States to discuss the control or eradication of the pink bollworm with the appropriate officials of the Government of Mexico. Those designated by the Secretary of Agriculture were Dr. Lee A. Strong, Mr. Avery S. Hoyt, Mr. R. E. McDonald, and Mr. J. R. Dutton. After some correspondence with the Secretary of Agriculture of Mexico, both informally and formally through the Secretary of State, arrangements were made for the first conference to be held at Monterrey, Mexico, on October 6, 1939. This particular spot was chosen because of its accessibility from the point of view of transportation and because of its accessibility to the principal cotton-growing areas of Mexico and to the cotton growing areas in the United States where the pink bollworm occurs. Those members of the Department designated by the Secretary to confer with respresentatives of the Mexican Government carried out their assignment and have prepared a report which is attached and which sets forth in brief form a digest of the conversations held by the representatives of the two governments.

The act previously referred to also directed the Secretary of Agriculture to discuss the subject of pink bollworm control or eradication with the States of the United States particularly concerned. It was deemed advisable to do this by means of holding a public conference to which representatives of all the cotton-growing States were invited. Such a conference was held in San Antonio, Tex., December 15, 1939. It was attended by representatives of a number of the cotton-growing States and by large numbers of cotton growers and persons interested in the cotton industry such as ginners, oil-mill operators, etc. A brief report of this conference, which is contained in a memorandum from the Chief of the Bureau of Entomology and Plant Quarantine, is transmitted herewith attached to the report of the Pink Bollworm Commission previously mentioned. The outcome of these conferences indicates that at this time what the Department believes to be the most effective means of dealing with the situation, namely a noncotton zone, is not recommended because of a number of different conditions. Within the United States the sentiment of those present at the San Antonio conference was not favorable to a noncotton zone although there were those present who indicated the belief if other methods failed a noncotton zone should be invoked. The conference with the responsible officials of the Mexican Government indicated

that a noncotton zone in Mexico was not recommended at this time. Without the cooperation of both countries it is believed the eradication of the pink bollworm by means of a noncotton zone would not be sufficiently promising to warrant the expense involved. This does not apply to possible efforts to eradicate isolated infestations within the United States by means of noncotton zones as has been done in the past.

The next most effective means of suppressing the pink bollworm consists of the application of field measures such as the sterilization of planting seed, the adoption of uniform planting dates, and the cleaning of the fields and destruction of crop residues as soon as possible after harvest in the fall with the thought that vigorous application of these measures may result in keeping the insect population down or in reducing it so as to delay for sometime, if not indefinitely, the need for more drastic measures such as those which would be involved in a noncotton zone. The Department also recommends the quarantine measures now in effect be continued, both with respect to the domestic plant quarantine involving interstate movement of products likely to carry the pink bollworm and the foreign quarantine which relates to the movement of products likely to carry the pink bollworm from foreign countries into this country.

It will be noted the Pink Bollworm Commission consisting of representatives of this Government and of Mexico, among other things, recommends in numbered paragraph 4 of their report that an international commission be established to deal with problems arising because of the presence of the pink bollworm and the need for its elimination in both countries. The Department is sympathetic to this proposal but does not recommend it for immediate consideration at this time. It is believed there are many factors involved in the infestation on both sides of the international boundary which may or may not respond to the program which is herein recommended. The degree of infestation attained and the modification of conditions which it is hoped may result from the continued application of suppressive measures may so affect or change the situation as to warrant delaying the recommendation with respect to an international commission. The Department therefore recommends that the recommendation as to the international commission be held available for further consideration later on if occasion should warrant.

The program outlined herein calls for additional appropriations in amounts which will need to be determined after careful consideration. The Department contemplates submitting, through regular channels, a supplementary estimate in order that you may be advised of the Department's estimate as to the cost of the program covered by the foregoing recommendation.

Sincerely,

H. A. Wallace, *Secretary.*

(Enclosures.)

Report of Secretary of Agriculture of discussions with representatives of the Mexican Government and of certain State governments and private citizens in the United States in the effort to develop plans looking toward the control or eradication of the pink bollworm of cotton as required by Public, No. 351, Seventy-sixth Congress.

United States Department of Agriculture,
Bureau of Entomology and Plant Quarantine,
Washington, D. C., December 28, 1939.

MEMORANDUM FOR THE SECRETARY

Dear Mr. Secretary: On December 15, 1939, in San Antonio, Tex., a public conference was held to which were invited the State directors or commissioners of agriculture from each cotton-growing State. This conference was also attended by many interested in the production, processing, and marketing of cotton.

At the conference information was brought out indicating that a noncotton zone was considered to be the most effective means of eradicating the pink bollworm. This was based on experience in eradicating isolated infestations previously destroyed in this country by means of noncotton zones. It was pointed out, however, that a similar program should be carried on in Mexico at the same time and for a number of reasons it appeared impracticable to undertake a joint program involving a noncotton zone in the two countries at this time. It was brought out that there did not appear to be any particular reason to recommend a noncotton zone in the United States unless similar efforts are carried on in Mexico, and those interested in the production of cotton indicated definite opposition to the idea of noncotton zones in the United States, at least until every other possible method to accomplish the same purpose could be tried on an adequate scale.

It was brought out in connection with the difficulty of eradicating the pink bollworm by means of a noncotton zone that wild cotton growing in southern Florida had been found to be infested by this insect and while the Department has been engaged in an effort to eradicate the infestation in southern Florida, the work has not been completed. There is also a host of the pink bollworm growing in the mountains of Arizona and extending into Mexico. It is not known exactly how favorable a host this plant—known as *Thurberia thespesoides*—is but pink bollworm larvae have been found infesting the bolls of the thurberia plants in Arizona.

Considering these and other factors, including the dislocation of labor and facilities devoted to handling the cotton crop, a noncotton zone was not favored at this time. Those present, however, indicated the belief that vigorous suppressive measures should be employed to keep down or to eradicate the pink bollworm infestations in this country. Particularly it was recommended that the Department continue the program of sterilization of planting seed, a uniform planting date and cleaning of fields including destruction of crop residues as soon as possible after harvest in the fall.

A stenographic report of this conference was made and for the benefit of any who may wish to make a more detailed examination of the record of the conference, copies are available for consultation in the Bureau of Entomology and Plant Quarantine, United States Department of Agriculture in Washington.

Very truly yours,

Lee A. Strong,
Chief of Bureau.

REPORT OF JOINT COMMISSION DESIGNATED BY THE SECRETARIES OF AGRICULTURE OF THE UNITED STATES AND THE REPUBLIC OF MEXICO TO PREPARE PLANS LOOKING TOWARD THE ERADICATION AND CONTROL OF THE PINK BOLLWORM AFFECTING COTTON IN THE UNITED STATES AND MEXICO

An act of Congress approved August 9, 1939, directed the Secretary of Agriculture, with the assistance of the Secretary of State, to discuss with appropriate officials of Mexico the eradication of the pink bollworm from the two countries and to develop plans for this purpose to be reported to the President not later than January 10, 1940. Copy is attached and marked "Exhibit A."

On September 16, 1939, the Secretary of Agriculture of the United States communicated with the Secretary of Agriculture of Mexico, laying the foundation for a conference under this authorization by Congress. There is attached a copy of the letter, which is marked "Exhibit B." It will be noted that the Secretary suggested Monterrey, Mexico, as the first meeting place; that he suggested as soon as possible after October 1 as an appropriate date; and that he designated the following personnel of the Department to act as American representatives: Dr. Lee A. Strong, Chief of the Bureau of Entomology and Plant Quarantine, Washington, D. C.; Avery S. Hoyt, Assistant Chief; and James R. Dutton, assistant to Dr. Strong; and R. E. McDonald, Chief of the Division of Pink Bollworm Control, San Antonio, Tex. This communication, which was sent informally from the Secretary of Agriculture of the United States to the Secretary of Agriculture of Mexico, was followed up by an official invitation sent through the Departments of State of the two countries. In due time a reply was received from the Secretary of Agriculture of Mexico, copy of which is attached and marked "Exhibit C."

The American members of the Commission proceeded to Monterrey to begin the conference on the date stated by the Mexican Secretary of Agriculture; namely, October 6. There they learned the Mexican Commission consisted of the following personnel; Ing. Guillermo Liera B, Director General de Agricultura, Mexico, D. F.; Ing. Leopoldo de la Barreda, Jefe, Departmento de Defensa Agricola; Mexico, D. F.; Ing. Alfonso Madariaga, Jefe del Departmento de Sanidad Vegetal, Instituto Biotecnico, Mexico, D. F.; Ing. Tomas Leal Moreno, Delegado Defensa Agricola, Matamoros, Tamps., Mexico; and Ing. Humberto Barbosa, Delegado de Defensa Agricola, Torrcon, Coah., Mexico. Members of the Commission visited the office of the American Consulate, where they were offered all the facilities of the Consulate to further the purposes of the conference. Vice Consul H. Claremont Moses was designated as a representative of the State Department to sit in at the conference and after some discussion, at the cordial invitation of Mr. Liera, Director General of Agriculture of Mexico, it was decided to hold the conference in the office of the Mexican Department of Agriculture. The conference was opened by a brief reference by the American representatives to the act of Congress which had initiated this discussion. The desirability of uniform action between the two countries in dealing with this common problem was pointed out, and Mr. R. E. McDonald was requested to indicate briefly the present status of the pink bollworm infestation. A discussion as to the areas infested in both

countries and the condition of each such infestation, marked Exhibit "D," attached, gives this information.

The American representatives indicated the desirability of following an outline to guide the discussion along lines that were believed to be practical and pertinent to the subject. The first question which was brought before the commission, therefore, was that of the possibility of eradicating the pink bollworm in cotton in the United States and in the Republic of Mexico. This subject received careful consideration. Many factors that would be involved in the eradication program of the two countries were thoroughly discussed. It developed that those present were inclined to believe that, from a technical standpoint, the eradication of the pink bollworm would be secured if it could be deprived of source of food for a sufficient period of time but that there were difficulties of a practical nature, not entirely restricted to finances, which led to the belief that it was not practical to recommend an effort to eradicate over the entire continent at this time. Some of the primary considerations leading to this conclusion, as stated by the representatives of the countries concerned, may be stated as follows:

In Mexico, there are areas sparsely populated or completely uninhabitated, where cotton is growing wild and it is difficult or impossible to determine whether infestation of the pink bollworm exists; that at the present time there is a lack of adequate lines of communication to reach many such areas; that in some of the almost inaccessible mountain regions not far from cotton growing areas in Mexico which are infested, certain Indian tribes live which cultivate small patches of cotton. It will be impossible within a reasonable period of time to reach such Indians and induce them to give up the growing of cotton for home use. In the same ranges of mountains and in others where the Spanish missions once grew cotton, later abandoning it, in some cases these missions are now in ruins; but the cotton continues to grow wild and offers an impediment to complete eradication. There is a wild cotton in southern Florida infested by the pink bollworm. While it appears that in time the Government of the United States, in cooperation with the State of Florida, may exterminate this cotton from the State, it has not yet been accomplished. The same type of cotton occurs in various parts of Mexico. There is also a plant of considerable importance, which is known as *Thurberia thespesioides*, which is very similar to cotton and is a host for the pink bollworm. This plant occurs in the mountains of southeastern Arizona and northern Mexico. It is not known how extensive it is in the mountains near to the infestation in the Laguna district of Mexico or whether it is infested in these almost inaccessible mountain ranges. In addition to these technical considerations, there was a great deal of discussion among the various members of the Commission of the economic difficulties connected with such an undertaking; that there would be a serious dislocation of labor and farm life in general over vast areas.

This was followed by a consideration of the practicability of continuation of the present methods of control and of the practicability of their modification or expansion to insure the utmost efficiency in the effort to apply repressive measures to the pink bollworm in the areas which are now infested and to prevent its spread to areas where it does not now occur.

It was pointed out by the Mexican members of the Commission that the annual production of cotton in Mexico is approximately 300,000 bales; that the annual production in the United States is approximately 12,000,000 bales, that any intensification of methods of control now in use in the infested cotton areas in both countries would impose a burden on Mexico far out of proportion to its interest in the outcome.

Before arriving at a conclusion on the foregoing, the Commission decided it would be advisable to visit certain of the infested areas involving the infestation which occurs in the Lower Rio Grande Valley of Texas, and in the Matamoros Valley of Mexico. The Commission, therefore, adjourned in the evening of October 6, to meet in Brownsville, Tex., on the morning of October 9.

The members of the Commission discussing the pink bollworm control and eradication met in Brownsville on the morning of October 9. The American consul at Matamoros, Mr. Goforth, was present and he was accompanied by Vice Consul Mr. Krausse, who remained as a representative of the State Department throughout the conference at that place. The conference, with respect to pink bollworm control and eradication, was resumed where it was left, on October 6, at Monterrey, Mexico.

The question of eradication was again presented and it developed that the consideration and discussion that had been given to this question in the intervening time had not led to any change in the attitude of the members of the Commission, and it was determined that it would be impractical to recommend at this time a program involving eradication from all areas of the two countries.

The question of local, repressive efforts and the prevention of spread was further considered. However, it developed that consideration of these matters was believed to fall more within the field of those charged with a definite responsibility for these activities rather than in the entire representation of the Commission, and it was left for the individual members informally to consider the program for control and prevention of spread in the respective areas in both countries at later informal conferences.

There followed some discussion of the procedure to be followed in the preparation of the report of the conference, and after some consideration it was believed advisable that the representatives of each country should prepare individual reports; that these reports would be exchanged, considered, and commented on by the members of the Commission of the other country, after which they would be returned. The report of the Mexican members of the Commission, therefore, has been considered by the American members and is attached hereto and made a part of this report. A copy of this report has been made available to the Mexican members and it is understood it will be attached to the report and made a part of it, by them.

Therefore it is the opinion of the American members of the Commission that continent-wide eradication of the pink bollworm by means of a host-free period as a joint undertaking to be engaged in by the Governments of the United States and Mexico at this time is not sufficiently promising to warrant favorable recommendation. It is the opinion of the American members that the efforts to control and prevent the spread of the pink bollworm should be continued,

jointly and cooperatively by the two countries, in order that the losses caused by this insect or the cost of its control may be kept as low as possible.

In addition to these individual reports, the Commission makes the following recommendations to both Governments:

1. That it is not possible to eradicate the pink bollworm from the North American Continent by means of noncotton zones, because this method is impractical for both countries.

2. It is recognized that present methods of control have been effective, particularly in some areas, and it is believed that the intensification of these efforts, where necessary, may bring about the gradual diminution in the intensity of infestation in some areas and possibly actual eradication in others.

3. That it is necessary to perfect the methods of control now in use in the different infested areas in both countries in accordance with the conditions prevailing in each region.

4. Considering that the development of the efforts of control indicated in the above paragraphs show this to be a problem of an international order, and in view of the interest which the United States has constantly demonstrated on account of the menace of an invasion to the Cotton Belt, it is suggested the importance of establishing in permanent form an International Commission to eliminate the difficulties heretofore encountered which would attend to the control and the combating of the pink bollworm in both countries.

5. These points ought to be taken as a base in the formation of the reports to their respective Governments by the representatives of both the United States and Mexico.

A stenographic report of the conferences was made. However it developed that inadvertently some of the remarks of the American members were not translated for the benefit of or were not transcribed by the Mexican stenographer at Monterrey. The report as prepared has been translated and is filed in the offices of the Bureau of Entomology and Plant Quarantine of the United States Department of Agriculture, Washington, D. C., and in that of the Director General de Agricultura in Mexico City.

(Signed:)

Lee A. Strong,
Avery S. Hoyt,
James R. Dutton.
R. E. McDonald.

November 9, 1939.

(Copy to Ing. Guillermo Liera B.)

Exhibit A

[Public—No. 351—76th Congress, Chapter 612—1st Session]

[H. R. 4638]

AN ACT Authorizing the Secretary of Agriculture to prepare plans for the eradication and control of the pink bollworm, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Agriculture, with such assistance of the Secretary of State as may be

mutually agreed upon by and between the Secretaries of Agriculture and State, is authorized and directed to carry on discussions with the heads of responsible agencies and responsible officials of the Government of Mexico and with such various States of the United States as he may deem necessary for the purpose of preparing plans looking toward the eradication and control of the pink bollworm affecting cotton within the United States and Mexico.

SEC. 2. That plans developed pursuant to these discussions shall be submitted by the Secretary of Agriculture, on or before January 10, 1940, to the President of the United States who shall transmit to the Congress such recommendations with respect thereto as he may deem advisable.

SEC. 3. That expenses incurred by agents of the United States in carrying out the discussions herein authorized shall be paid from regular appropriations made to the department of the Government of the United States by which the agent incurring them is employed.

Approved, August 9, 1939.

EXHIBIT B

UNITED STATES DEPARTMENT OF AGRICULTURE,
Washington, September 16, 1939.

DR. JOSE G. PARRES,
Secretary of Agriculture, Mexico City, Mexico.

DEAR DR. PARRES: A number of years ago when it was learned the pink bollworm of cotton had become established in Mexico, those interested in the cotton industry in the United States were greatly concerned as were also those of your country who were interested in cotton production. Since that time, as you know, the concern of those interested in cotton has found official recognition in a variety of ways in both countries. We in the United States tried to keep the pest from coming into this country and in order that we might be better prepared to deal with it if it did find entry, this Department sent entomologists to Mexico to study the problem there. Thanks to the courtesy of the Mexican Government and the Mexican people directly concerned, information was thus obtained which proved helpful later on when it became necessary to apply, on this side of the boundary, what we had learned in Mexico.

Notwithstanding measures taken by both countries to prevent spread by artificial means, the pest invaded new areas. Experience has demonstrated that it may move long distances by natural means. As time passed the pink bollworm spread into various areas within the United States. It has become well established in limited parts of Texas and New Mexico and isolated infestations have been found in our country as far west as Arizona and as far east as Florida. The infestations in the more isolated areas in this country have each been the subject of special control operations conducted in accordance with the best suppressive measures available and have resulted in complete eradication of the insect from these sections. These activities have demonstrated that the eradication of the pest is not impossible.

The success of these undertakings has from time to time suggested that such suppressive measures be extended to all infested sections.

Some few years ago the interest in this matter in both countries even extended to informal preliminary consideration of the practicability of an eradication campaign in Mexico and in the United States. One of the first questions that arose was whether there existed in sections where infestation occurred plants other than commercial cotton in which the pink bollworm might develop in the event domestic cotton was eliminated for a time by establishing and maintaining noncotton zones. The records disclose that in cooperation with the appropriate officials of Mexico, representatives of this Department made a survey of various areas in Mexico which, though not as complete as would have been desirable, resulted in corroboration of the belief there was comparatively little danger in this direction.

Where infestation has occurred in the interior of Mexico or along the international boundary no comprehensive effort has been made, however, to eradicate the pest. Here the measures employed were somewhat different with more emphasis on suppression than on eradication and varied somewhat because of the variety of conditions to be met. At some points, for example at Ojinaga, Mexico, and Presidio, Tex., the application of cooperative suppressive measures with the direct participation of the Mexican and the American Departments of Agriculture have undoubtedly contributed to an important extent to the practicability of continued cotton production in that area during the last several years.

The discovery of a light infestation of the pink bollworm in the vicinity of Matamoros, Mexico, and Brownsville, Tex., in 1936 again emphasized the importance of the pink-bollworm problem. This advance into new and important areas of cotton production in both countries again disclosed that artificial measures cannot be relied upon as the only means of preventing spread. On both sides of the line at this point conditions are particularly favorable to extensive cotton production and to the building up to serious proportions of the pink-bollworm population. Mild winters, long growing seasons, favorable climatic and soil conditions, as you know, combine to create a situation where maximum pink-bollworm populations with consequent crop losses and danger of spread are imminent.

Immediately it was known the pest occurred in this new area, our two countries again cooperated in applying suppressive measures. The measures agreed upon by representatives of the two Departments of Agriculture are being carried out as thoroughly as possible considering all the circumstances, and it is believed they are aiding in partially holding the pest in check. Both countries recognize, however, that the existence of an infestation at this point on either side of the international boundary menaces the entire cotton cultures of both countries.

Our immediate interest in this matter, in which our two Departments have been cooperating so satisfactorily, however, arises from formal recognition on the part of the Government of the United States that the effort to combat this major pest of cotton should continue, and perhaps even be expanded. On August 9, our President approved an act passed by the Congress of the United States authorizing me, with the assistance of the Secretary of State, to carry on discussions with responsible agencies and officials of the Mexican Government for the purpose of preparing plans looking toward the eradication and control of the pink bollworm affecting cotton within the United

States and Mexico. The act is Public, No. 351, of the Seventy-sixth Congress, copy of which is enclosed.

It is understood that the Secretary of State is taking appropriate and customary procedure to formally acquaint the Mexican Government of the action of our Government in this manner and to solicit cooperation of the responsible agencies and officials of Mexico. It is the intention of this letter, therefore, to advise you informally of the action of our Government and in this less formal way to assure you that this Department looks forward with a great deal of satisfaction to the opportunity of discussing with representatives of the Mexican Government the problem which is common to both countries, namely, the production of cotton free from the added burden of combating the pink bollworm of cotton.

You will note that this act contemplates that the discussions between representatives of Mexico and the United States to develop plans to deal with the pink-bollworm situation will be carried on without delay as it directs the Secretary of Agriculture to submit his report to the President on or before January 10, 1940, and that it will then be sent to the Congress with recommendations. Owing to the short time available, it seems important to proceed as rapidly as possible with the preliminary discussions. If such discussions are agreeable to the Mexican Government, I would propose to designate Dr. Lee A. Strong, Mr. Avery S. Hoyt, Mr. R. E. McDonald, and Mr. James R. Dutton to represent this Department in the discussions. Dr. Strong is the Chief of the Bureau of Entomology and Plant Quarantine of this Department, and the others named are his associates in the work of that Bureau.

If the discussions are agreed upon, Monterrey may be the best place to hold the first meeting since it is readily accessible to infested cotton fields in both countries and transportation facilities are adequate. If you have any alternative locations to suggest, this Department will be pleased to receive them. It is also suggested that the first conference be held as soon as possible after the first of October and subsequent meetings be held at such times and places as the conferees themselves may select.

With reference to these conferences, it will be noted that the act authorizing them specifically provides that the travel and subsistence expenses of the representatives of this Government participating shall be paid from regular appropriations made to the Department of our Government under which the representative is employed.

Assuring you of our gratification for this opportunity to continue and it is hoped extend the cooperation between our respective countries for the control or eradication of this serious pest, I am

Very truly yours,

(Signed) H. A. Wallace,
Secretary.

(Enclosure: CC—Secretary of State, Dr. Strong, Mr. Hoyt, Mr. Rohwer, Mr. McDonald.)

EXHIBIT C

MEXICO, D. F., *September 28, 1939.*

Mr. H. A. WALLACE,
Secretary of Agriculture of the United States,
Washington, D. C.

MY DEAR MR. WALLACE: With great interest I have read the contents of your letter of this month which refers to the red worm plague in cotton which affects both your country and mine and with which motive you suggest the efficacy of studying together, through the medium of representatives of both countries, for the purpose of unifying adequate measures in overcoming this plague.

Being intimately familiar with the importance of your proposition and because I have had the opportunity to ascertain that the cooperation of your Government as to the technical elements on the question of the red worm have given our specialists on this same plague in some regions of Mexico, especially in Ojunaga, Chihuahua, and Matamoros, Tams, great aid having been entirely satisfactory and having contributed in establishing a more scientific and practical procedure in the combat of this disease. I wish to inform you of the complete approval of the President of the Mexican Republic as to these conferences which you propose; in fact there is already established a Mexican commission which is presided over by the engineer, Mr. Guillermo Liera B., Director of Agriculture in this Department, this commission being composed of a personnel which has been engaged for a long time in the investigation and combating of the red worm.

This commission will have prepared the informative and technical material covering this plague, so that, similarly improved by the American Commission, the themes may be discussed and a clear vision of the problem may be had whereby a complete plan in the procedure may be worked, any accord reached having an informal character and not obligating or compromising either country in accepting them until they receive the approval of the presidents of the two countries.

Also, the city of Monterrey, Nuevo León, is accepted as the site of the first conference, which conference may take effect on the 6th of October next, and subsequent conferences as the conferees may decide.

With this motive I again assure you of my good will.

(Signed) JOSE G. PARRES.

(Translated by E. Ernest Chavez, Federal Crop Insurance Corporation.)

OCTOBER 27, 1939.

Dr. JOSE G. PARRES,
Secretary of Agriculture, Mexico City, Mexico.

DEAR DR. PARRES: This will acknowledge your letter of September 28 in reference to the conferences between representatives of the Mexican Government and the Government of the United States in regard to plans for the control or eradication of the pink bollworm in the United States and Mexico.

We are delighted that the proposed conference was agreeable to you and, as already indicated in our telegram, the date of October 6 was agreeable.

It is understood, that as a result of the discussions the representatives of the two Governments have already had on this question, they have reached an agreement regarding certain general matters and they are taking steps to prepare reports for consideration by the two Governments.

Very truly yours,

(Signed) HARRY L. BROWN,
Acting Secretary.

EXHIBIT D

A DISCUSSION OF THE AREAS INFESTED BY THE PINK BOLLWORM IN THE UNITED STATES AND MEXICO

The pink bollworm was first discovered in the United States in the fall of 1917 in Robertson, Jefferson, Chambers, Liberty, Brazoria, Harris, Galveston, Fort Bend, Hardin, Newton, Jasper, and Orange Counties, Tex. Infestation was discovered in Cameron, Calcasieu, and Jefferson Davis Parishes, La., in the 1919 crop, and in Bossier and Caddo Parishes, La., in the year 1920. In 1921 infestation was discovered in Ellis, Collin, and Grayson Counties, Tex. Infestation was discovered in Columbia, Baker, Bradford, Union, Gilchrist, and Alachua Counties, Fla., in the year 1932; others in Jackson, Suwanee, Hamilton, and Levy Counties, Fla., in 1934. Infestation was discovered in Tift and Berrien Counties, Ga., in 1933.

All of the above infestations were eradicated within a period of 1, 2, or 3 years after discovery. The methods used in effecting eradication consisted in the following:

1. Prohibition of the growing of cotton.
2. Regulation of the planting period.
3. Shortening the production period of the crop.
4. Sterilization by heating of all seed produced in the areas.
5. Cleaning up cotton debris in the fields.
6. Cleaning points of concentration where cotton was stored or handled. Some or all of these measures were used in the various areas as conditions of infestation and other factors warranted.

Infestation was discovered in Presidio, Brewster, Ward, and Reeves Counties, Tex., in the year 1918; and in El Paso and Hudspeth Counties, Tex.; the adjacent Juarez Valley, Mexico; and in Dona Ana and Eddy Counties, N. Mex., in 1920. Infestation was discovered in Graham, Greenlee, and Cochise Counties, Ariz., in the year 1926. An effort was made to eradicate the pest from these areas by the use of the methods described above, but without success due to constant reintroduction, probably by moth flight. Infestation was discovered in the Salt River Valley of Arizona in the year 1929, and at the time of discovery it had become rather intense. By the application of all the measures mentioned above, this infestation was eradicated within a period of about 3 years. Infestation was discovered in Howard, Ector, Midland, Martin, Andrews, Glasscock, and Dawson Counties, Tex., in the year 1927. Eradication was effected within a period of 2 or 3 years by the application of some of the methods hereinbefore mentioned.

The infestation of the pink bollworm first reached the North American continent about the year 1911 and became well established in the Laguna District of Mexico by the year 1916. The Laguna

District of Mexico is a very fertile area lying approximately 200 miles directly south of Presidio, Tex. This area does not have sufficient rainfall for the production of crops but must depend upon irrigation. Water is received from the Rio Nazas and the Rio Naval through floods that come down in the late fall. These flood waters are spread over the ground, irrigating the land sufficiently to produce a crop the following year.

All the areas in the United States and Mexico located west of and including the Pecos River Valley are too dry for farming, except in comparatively small areas provided with irrigation water. The Pecos Valley, the upper Rio Grande Valley in the vicinity of El Paso, Tex., as well as the Juarez Valley, Mexico, and the area around Deming, N. Mex., and Graham and Greenlee Counties in Arizona, have very cold winters due to the high altitude. Although infestation has existed in these areas for many years, it has been possible by the application of some of the control measures hereinbefore mentioned to prevent any considerable increase. This is due largely to the aid received from the short seasons and cold winters in those higher altitudes. It seems reasonable now to expect that these infestations can be held down in these particular areas for an indefinite period, and also prevented from spreading from these areas by the application of reasonable quarantine procedure.

Infestation of the pink bollworm was reintroduced into the Salt River Valley in Arizona and discovered in the fall of 1938. An infestation of the pink bollworm in the Salt River Valley of Arizona, on account of the mild climate, is much more difficult to handle and prevent from building up than in the other areas just mentioned. However, the same measures used to eradicate the insect heretofore are now being applied. The application of these measures in the fall of 1938 and during the year 1939 have shown good progress toward eradication.

Reinfestation was found in a number of plains counties of Texas, including Gaines, Dawson, Terry, Hockley, Lamb, Bailey, and Cochran, in the year 1933. The same measures as used before to eradicate the insect from this area have been applied, but due to constant reintroduction by the spread of the moths by medium of the winds, it has not been possible to effect complete eradication. However, the infestation is being held down to the point where there does not seem to be imminent danger of spread to other areas.

In the summer of 1932 infestation of the pink bollworm was discovered on wild cotton in southern Florida. This wild cotton is an indigenous plant growing along with other subtropical plants on the coast line from St. Petersburg on the west, to the southern extremity of the State, including the many islands. In places this plant was very abundant and the infestation of the pink bollworm was particularly heavy in the Cape Sable region and on the keys between Miami and Key West. From this infestation on wild cotton, the pink bollworm had spread to the northern Florida and southern Georgia domestic cotton fields, discussed herein.

In order to remove this menace to the domestic cotton fields in the southeastern States, a program of eradicating the wild cotton as a means of eradicating the pink bollworm was begun immediately, and has been vigorously carried forward to this date. Considering the large area in which this infested wild cotton occurred, it has been

a considerable undertaking to eradicate it. However, within a comparatively short time the wild cotton plants and, consequently, the pink bollworm, had been reduced to such extent that the imminent danger of spread of the pink bollworm to the domestic cotton fields in northern Florida and other southern States was removed. Hence, it now remains to continue that work for a while longer to prevent a recurrence of this menace. The work is now in excellent shape and each year the number of wild cotton plants to be removed, coming up from seed and from roots, becomes fewer; and, of course, the pink bollworm each year is further reduced.

In Presidio and Brewster Counties, Tex., and adjacent areas in Mexico, infestation of the pink bollworm had built up by the year 1937 to the point where it was destroying approximately 50 percent of the crop. Thus, this had become a focal point from which infestation was spreading by wind carriage of moths to the plains counties of Texas and to other areas westward. Beginning in the year 1938 a plan was applied by creating a host-free zone as early in the fall as practicable and maintaining that host-free zone to late spring by delayed planting in 1939, and by the application of all the other sanitary measures hereinbefore mentioned. Remarkable progress has been made toward repressing this infestation. In August of the year 1938, prior to the time these measures began to have any effect, the average acre-population of the pink bollworm for this district was 133,348. After the application of these measures, in August of 1939, the average acre-population was reduced to 3,393.

In the Laguna district of Mexico, on account of the fact that the crop must be produced from irrigation naturally applied in the fall, it is not practical to maintain a host-free period early in the spring by the regulation of the planting date. However, within the next year or two the water from the Mazas River will be impounded and under control so that irrigation can be applied when needed; and when that is done such host-free period in the spring can be maintained. From the results obtained in Presidio, Tex., and Ojinaga, Mexico, region by the use of these methods, together with the several other sanitary measures, it is believed that a thorough application of these measures in the Laguna will result in a reduction of the pest.

Several years' experience indicates that most of the infestation in the plains area of Texas, through the Pecos and El Paso Valleys of Texas and the Juarez Valley of Mexico to Arizona, come from either the Presidio region of Texas or the Laguna district of Mexico, or both. Hence, in order to control these outlying infestations, it is necessary to control the pest in these two centers.

The pink bollworm was discovered in the lower Rio Grande Valley of Texas and Mexico, in the vicinity of Brownsville and Matamoros, in the fall of 1936. This area is subtropical. The climate is mild, and the growing seasons are long. Cotton is produced both from rainfall and from irrigation. It is a very difficult matter in this locality to create a host-free period early in the fall. To create such host-free period it is necessary to kill all the cotton in the area. Cotton in this area is perennial and readily sprouts from the roots that may be left in the ground. However, such host-free period can, with diligence, be produced. It is also difficult to maintain a host-free period late into the spring because of the fact that much of the cotton must be produced from rainfall and this may come early or

late, usually early, and usually falls in some parts earlier than in other parts. In the year 1937 a diligent effort was made, through the cooperation of the farmers, without any outside aid, to create a host-free period early in the fall. Excellent cooperation was manifested by the farmers on boths sides of the river, but they met with great difficulties in creating such host-free period. When they plowed the ground much cotton would sprout immediately thereafter, and in 2 or 3 weeks would produce fruit on which to propagate the pink bollworm. Cotton was growing in areas not in cultivation, where seeds had been dropped or where the crop had been grown in previous years. In other words, it had become a "weed" of general distribution throughout the entire area, especially on the United States side, and, while this escaped cotton had no commercial value, it was difficult to find, and after finding, equally as difficult to destroy. These efforts were continued through the year 1938. Of course, during all this time, other necessary sanitary measures were in practice. Due to the difficulties of creating this early host-free period, described above, and making it complete, as is essential, infestation of the pink bollworm continued to build up. In the year 1939 it had reached menacing proportions. During the year 1938 it had already spread, in small numbers, to Jim Wells, Nueces, Brooks, and Kleberg Counties. The same measures were applied in these counties, and with much better success, due to climatic and cultural conditions, than in the lower Rio Grande Valley proper. In the year 1939 infestation spread from the lower Rio Grande Valley to the counties of Nueces, Kleberg, Jim Wells, Duval, Jim Hogg, Brooks, Zapata, Webb, La Salle, and Maverick. Infestation was found, in most cases, in different parts of Nueces, Brooks, Jim Wells, and Kleberg Counties in 1939. Therefor, it is believed that the infestation in 1938 in these counties was eradicated and the 1939 findings were not introductions from the lower Rio Grande Valley. While this movement in 1939 gives an appearance of an enormous spread, it should be understood that the spread in 1939 involved comparatively little more cotton than was involved in 1938, due to the fact that these additional counties infested are not primarily devoted to cotton growing, but stock raising, and cotton is produced in comparatively small spots. Also, in the year 1939 infestation was found in the Don Martin area of Mexico, located some 40 miles southwest of Laredo, Tex., and to the west-central Texas counties of Tom Green, Concho, and Mitchell.

In the fall of 1939, by the use of funds appropriated by Congress, aid was given to the farmers on the American side in creating a host-free period. This brought about the accomplishment of a much better job, especially with reference to cotton escaped from cultivation, than in previous years. On the Mexican side the farmers themselves bore all the expense. However, they cooperated splendidly in the efforts to create a host-free period, and it can be said that a better job was done that year than in previous years. The problem of creating a host-free period in the fall is somewhat more difficult on the American side than on the Mexican side, due to the fact that on the United States side there are a great many farms owned by nonresidents and farmed by tenants; also there are a great many areas formerly devoted to the production of cotton which are now lying out. This condition does not prevail in Mexico to anything like the extent it does in the United States, but practically all lands

are cultivated year after year by the persons living thereon. On the United States side, as stated above, much land is farmed by tenants, and the time for changing tenants in that area is early in the fall, immediately after the harvesting of the crop. Hence, difficulty frequently arises as to whose responsibility it is to clean the land, the tenant or the landlord, and the landlord may live in a distant State or nation.

A definite appraisal of the efforts put forth in 1939 cannot be made until inspection can be had of the 1940 crop, but it is hoped and believed that substantial progress has been made.

As has been pointed out, all the areas from the plains of Texas, westward to and including the Salt River Valley of Arizona in the United States, and in Mexico, appear to be in a favorable condition to make progress toward final extermination of the pest. The great danger of spread at this time is from the Lower Rio Grande Valley area. Unless substantial progress is made in the comparatively near future toward reduction of the plague in this area, we must expect it to spread by natural means to other parts of the Cotton Belt and become impossible to eradicate.

However, it seems reasonable to believe that if the control measures herein mentioned, particularly the creation of a host-free period early in the fall and the delaying of planting, which have proved successful in other areas, are applied in south Texas and adjacent areas of Mexico, the infestation can be reduced with a corresponding reduction in the menace to other parts of the Cotton Belt.

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